IN THE CLAIMS

Please cancel claims 1-11 without prejudice or disclaimer, and substitute new claims 12-22 therefor as follows:

Claims 1-11 (Cancelled).

12.   (New) A process for producing a low polarization mode dispersion optical fiber, comprising the steps of drawing an optical fiber from a glass preform; and imparting to the optical fiber, during drawing, a spin about its axis with inversions of the spin direction, the number of the inversions in a length of fiber of 20 m being at most two.

13.   (New) The process according to claim 12, wherein the spin is imparted according to a bidirectional spin function including zones of substantially constant amplitude and zones of transition where the inversion takes place, wherein the extension of the zones of substantially constant amplitude is greater than the extension of the zones of transition.

14.   (New) The process according to claim 12 or 13, wherein the spin is imparted according to a bi-directional and non-periodic spin function.

15.   (New) The process according to claim 13, wherein the extension of each of the transition zones is lower than 20% of the extension of the zone of substantially constant amplitude preceding it.

16.   (New) The process according to claim 13, wherein the extension of each of the transition zones is lower than 10% of the extension of the zone of substantially constant amplitude preceding it.

17.   (New) The process according to claim 12, wherein the number of inversions of the direction of spin in a length of fiber of 25 m is at most two.

18.   (New) The process according to claim 13, wherein the peak amplitude of the bi-directional spin function is 2 turns/m to 10 turns/m.

19.   (New) The process according to claim 13, wherein the peak amplitude of the bi-directional spin function is between 2 turns/m to 5 turns/m.

20.   (New) The process according to claim 12, wherein the distance between two consecutive inversions is at most 15 m.

21.   (New) The process according to claim 13, wherein the extension of each of the transition zones is lower than 10% of the extension of the zone of substantially constant amplitude preceding it.

22.   (New) The process according to claim 13, wherein the bi-directional spin function is trapezoidal.